

NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

FACT SHEET

(pursuant to NAC 445A.236)

Applicant: City of Henderson
240 Water Street
P.O. Box 95050
Henderson, NV 89015-5050

Permit Number: NEV80003

Locations: Kurt R. Segler Water Reclamation Facility (KRSWRF)
450 East Galleria Drive
Henderson, Clark County, Nevada 89011
Latitude: 36° 05' 14" N Longitude: 114° 59' 13" W
Section 36, T21S, R62E MDB&M

Southwest Water Reclamation Facility (SWRF)
2610 St. Rose Parkway
Henderson, Clark County, Nevada 89074
Latitude: 36° 01' 32" N Longitude: 115° 06' 10" W
Section 24, T22S, R61E MDB&M

Outfalls:

001: Bird Viewing Preserve wetlands ponds

Latitude: 36° 05' 14" N, Longitude: 114° 59' 13" W

002: Green Valley Reclaimed Water Distribution System

Latitude: 36° 04' 21.5" N, Longitude: 115° 00' 5" W

003: Black Mountain Reclaimed Water Distribution System

Latitude: 36° 04' 20" N, Longitude: 114° 59' 43" W

004: North East Reclaimed Water Distribution System

Latitude: 36° 04' 27" N, Longitude: 114° 59' 23" W

005: Southwest WRF on-site irrigation

Latitude: 36° 01' 32" N, Longitude: 115° 06' 10" W

General: The Permittee, The City of Henderson (COH), owns and operates the Kurt R. Segler Water Reclamation Facility (KRSWRF) at 450 E. Galleria Drive, and the Southwest WRF (SWRF) at 2610 St. Rose Parkway, both located in Henderson, Clark County, Nevada.

The KRSWRF, with a 40 million gallons per day (MGD) capacity, treats all wastewater to Category B reclaimed water specifications, and the discharge is used for on-site irrigation or for reclaimed water customers, or discharges directly to the Las Vegas Wash (regulated by a NPDES discharge permit NV22098). Preliminary treatment at the KRSWRF consists of fine screens and grit removal. Activated sludge in aeration basins achieves BOD removal and nitrification of ammonia. Biological nutrient

removal (BNR) cells were designed and installed in a plant expansion completed in 2008. The BNR cells achieve phosphorus removal and nitrogen reduction on the full plant flow. Secondary phosphorus removal to polish the BNR effluent is also available through chemical coagulation and precipitation in solids contact clarifiers or lamella plate settlers. Sand filtration follows through monomedia or continuous backwash filters. The 2008 plant expansion upgraded the treatment to ultraviolet disinfection, while still having the capability of using hypochlorination if emergencies arise. Sludge removed from the activated sludge process is dewatered for final disposal in an approved landfill.

The SWRF has a treatment capacity of 8 MGD and is projected to be in operation by September, 2011. The SWRF will also produce Category B reclaimed water that will be used for irrigation. Treatment at the SWRF will consist of bar and band screens, grit removal, activated sludge with biological nutrient removal, membrane bio-reactors, and ultraviolet light for primary disinfection. Odor control will be used throughout the plant. Sludge from the plant will be returned to the sanitary sewers and treated at the main plant.

The treated water from both facilities is discharged to groundwater either on site, for landscape irrigation, to the Bird Viewing Preserve wetlands/ponds, or to one of three intermediate water distribution system pump stations for distribution to the City of Henderson area facilities for irrigation. A system of groundwater monitoring wells provides groundwater quality information. Solid waste is disposed of in a manner approved by the Southern Nevada Health District.

SWRF effluent not needed for irrigation is normally transmitted to the KRSWRF for discharge to Las Vegas Wash, but may also discharge directly to the Wash, as authorized under NPDES Permit, NV0022098. The NPDES permit also covers the pretreatment program which regularly samples the effluent from the industrial dischargers.

The COH has applied for renewal of a 5-year Groundwater Discharge Permit, NEV80003, to discharge treated wastewater, for on-site irrigation, for the Bird Viewing Preserve wetlands, or reuse at the Henderson area facilities, as described above.

Flow: The KRSWRF design treatment capacity is rated at 40 million gallons per day (MGD) which includes the flow from the SWRF, which has a design treatment capacity of 8 MGD. Current operational daily flow is 21 MGD. The total daily maximum flow rate and the 30-day average flow rates are requested at 40 MGD.

Site Groundwater: The water table at the KRSWRF varies from 20-50 feet below ground surface. A series of wells in and around the facility provide groundwater quality information on a quarterly basis.

Corrective Action Sites: There is one Bureau of Corrective Actions (BCA) remediation site within a one-mile radius of the facility –the BMI Complex. The BCA case officer has stated that adverse impacts to the remediation activities due to the discharge and reuse activities is not anticipated.

Well Head and Drinking Water Supply Protection: The facility is not within 6,000 feet of a public water supply, or a drinking water protection area (DWPA). The facility is not within an established Wellhead Protection Area (WHPA).

Proposed Effluent Limitations, Sampling and Monitoring Requirements: During the period beginning on the effective date of this permit and lasting until the permit expires, the Permittee is authorized to

discharge treated effluent for evaporation and/or reuse. Weekly influent and effluent sampling and monitoring, for the parameters listed in Table 1, is required by the permit.

Table 1. Effluent Limitations, Sampling and Monitoring Requirements

Parameters	Units	Effluent Limitations		Monitoring Requirements		
		30-Day Avg	Daily Max	Sampling Locations	Monitoring Frequency	Monitoring Type
KRS Influent Flow Rate ¹	MGD	40.0	---	INF –KRS	Continuous	Meter
SWRF Influent Flow Rate ¹	MGD	8.0	---	INF –SWRF	Continuous	Meter
KRS Effluent Flow Rate ²	MGD	M&R	---	001	Continuous	Meter
KRS Effluent Flow Rate ²	MGD	M&R	---	002, 003, 004	Continuous	Meter
SWRF Effluent Flow Rate ²	MGD	M&R	---	005	Continuous	Meter
Volume supplied to Reuse Sites ³	MG	M&R	---	Each reuse site	Continuous	Meter, estimate
BOD ₅	mg/l	M&R	M&R	INF–KRS, INF–SWRF	Weekly	Composite
BOD ₅ –Reuse	mg/l	30	45	001, 002, 003, 004, 005	Weekly	Composite
TSS	mg/l	M&R	M&R	INF–KRS, INF–SWRF	Weekly	Composite
TSS –Reuse	mg/l	30	45	001, 002, 003, 004, 005	Weekly	Composite
pH	S.U.	≥ 6.0 and ≤ 9.0	M&R	EFF –KRS, EFF –SW	Weekly	Discrete
Fecal coliform ⁴	MPN/ 100 ml	2.2	23	002, 003, 004, 005	Weekly	Discrete
Total Nitrogen as N	mg/l	M&R	M&R	001, 002, 003, 004, 005	Weekly	Composite

NOTES: INF –KRS = Influent to Kurt R. Segler WRF; INF –SWRF = Influent to Southwest WRF; 001 = Effluent to Bird Viewing Preserve; 002 = Effluent to Green Valley RWDS; 003 = Effluent to Black Mountain RWDS; 004 = Effluent to North East RWDS; 005 = Effluent to SWRF on site irrigation; EFF –KRS = Effluent from Kurt R. Segler WRF; EFF –SW = Effluent from Southwest WRF.

MGD: million gallons per day
mg/l: milligrams per liter
TSS: Total Suspended Solids
MPN: Most Probable Number

M&R: Monitor & Report
BOD₅ = 5-day Biological Oxygen Demand
S.U. = Standard pH units

1. Monitor influent flow continuously for each WRF. Report quarterly, 30-day average influent rates for each WRF individually.
2. Monitor the effluent discharge rates continuously, and report quarterly 30-day average discharges for each outfall individually.
3. Monitor continuously and report quarterly, the volume of effluent discharged to each of the reuse sites individually.
4. The 30-day average for fecal coliform = geometric mean of all measurements made during a month.

Table 2 contains the list of current reuse sites. Reuse sites may be added to or deleted from the permit by amending the Effluent Management Plan (EMP). Each of the sites listed in Table 2 is permitted under an individual reuse permit, except for the on-site irrigation for the KRSWRF and SWRF sites, which are covered under NEV80003. Changes to the List of Reuse Sites shall also be submitted to the Division as an update to current Division records. All reuse sites not directly owned and managed by the KRSWRF or SWRF shall obtain their own reuse permit from the Division and have a Division-

approved EMP in place prior to the discharge of reclaimed effluent.

Table 2. List of Off-Site Reuse Sites

Reuse Site	Address	Permit Number (NEV...)	Source	Reuse (ac-ft/year)
Anthem Country Club Golf Course	1 Grosse Pointe Place	98023	GVRWDS, SWRF	1,027
Black Mountain Golf Course	500 Greenway Road	96017	BMRWDS	1,510
Desert Willow Golf Course	2020 W. Horizon Ridge Pkwy.	95038	GVRWDS, SWRF	700
Dragon Ridge Golf Course	1700 W. Horizon Ridge Pkwy.	97007	GVRWDS, SWRF	1,078
Legacy Golf Course	100 Par Excellence Drive	92024	GVRWDS, SWRF	940
Revere Golf Club -Lexington	2600 Hampton Road	98019	GVRWDS, SWRF	1,086
Revere Golf Club -Concorde	2600 Hampton Road	2001511	GVRWDS, SWRF	942
Rio Secco Golf Course	2851 Grand Hills Drive	96010	GVRWDS, SWRF	1,437
Palm Mortuary	800 South Boulder Highway	2000505	BMRWDS	182
Boulder Highway Landscaping Irrigation	240 Water Street	2000513	KRS	645
Tuscany Golf Club	901 Olivia Parkway	2001503	NERWDS	1,064
Wildhorse Golf Club	2100 Warm Springs Road	2002518	GVRWDS, SWRF	660

GVRWDS = Green Valley Reclaimed Water Distribution System; SWRF = Southwest Water Reclamation Facility; BMRWDS = Black Mountain Reclaimed Water Distribution System; KRS = Kurt R. Segler Water Reclamation Facility; NERWDS = North East Reclaimed Water Distribution System.

Additional reuse sites may be added to the above lists as a minor modification of the permit and added to the list of permitted reuse sites in the EMP as an update, and the new sites shall be submitted to the Division as an update to current Division records. All reuse sites not directly owned and managed by the KRSWRF or SWRF shall obtain their own reuse permit from the Division and have a Division-approved EMP in place prior to the reuse of effluent .

In addition to influent and effluent sampling, groundwater is required to be monitored and sampled by the permit, per the requirements listed in Table 3.

All monitoring wells shall be labeled, locked and capped to prevent tampering.

Table 3. Groundwater Sampling and Reporting Requirements

Parameters	Units	Effluent Limitations		Monitoring Requirements		
				Sampling Locations	Monitoring Frequency	Monitoring Type
Depth to Water ¹	ft	---	M&R	All	Annually	Meter
Static water elevation ¹	ft amsl	---	M&R	All	Annually	Meter
Chlorides ²	mg/l	---	M&R	All	Annually	Discrete
TDS ²	mg/l	---	M&R	All	Annually	Discrete
Nitrate as N ²	mg/l	---	M&R	All	Annually	Discrete
Total Nitrogen ²	mg/l	---	M&R	All	Annually	Discrete
Ammonia as N ²	mg/l	---	M&R	All	Annually	Discrete

NOTES: All = Monitoring Wells: 13, 14, 16, and others that may be added.

amsl: above mean sea level

M&R: Monitor & Report

mg/l: milligrams per liter

TDS: Total Dissolved Solids

1. Measure annually, at the time of sampling, depth to groundwater and static water elevation for each well, and report for each calendar year 4th quarter on January DMR Forms.
2. Sample and analyze annually and report for each of the parameters. Report in January for each calendar year 4th quarter.

Rationale for Permit Requirements: The Division has established the monitoring requirements in Tables 1 and 3 to ensure that waters of the State are not degraded as a result of project activities.

Flow: The total daily maximum flow rate and the 30-day average flow rates are requested and permitted at 40 MGD for the KRSWRF and 8 MGD for the SWRF.

pH: M&R. Sample weekly. No change from previous permit requirements.

BOD₅, TSS: 30-day average -30 mg/l; daily maximum -45 mg/l. Sample weekly. There were no exceedances of the standards during the past 5 years, and there is no change from the previous permit requirements.

Fecal Coliform: 30-day average -2.2 mg/l; daily maximum -23 mg/l. Sample weekly. There was one exceedance of the daily maximum limit during the past 5 years, and that exceedance was accepted as a sampling error. No change from previous permit requirements.

Total Nitrogen: M&R. Sample weekly. No change from previous permit requirements.

Schedule of Compliance: The Permittee shall implement and comply with the provisions of the schedule of compliance after approval by the Administrator, including in said implementation and compliance, any additions or modifications which the Administrator may make in approving the schedule of compliance:

- The Permittee shall achieve compliance with the effluent limitations upon issuance of the permit.
- **Within 90 days of permit issuance (By MM DD, 2011),** the Permittee shall submit for review and approval an updated Effluent Management Plan (EMP), prepared in accordance with the Division's WTS-1A guidance: *General Criteria for Preparing an Effluent Management Plan*.

All schedule of compliance submittals and evidence of compliance documents shall be submitted to the Division of Environmental Protection at the address listed below:

**Division of Environmental Protection
Bureau of Water Pollution Control
ATTN: Compliance Coordinator
901 S. Stewart Street, Suite 4001
Carson City, Nevada 89701**

Before implementing changes to an approved EMP or O&M Manual, the Permittee shall submit proposed changes to the Division for review and approval.

Proposed Determination: The Division has made the tentative determination to renew the proposed discharge permit for a period of five (5) years.

Procedures for Public Comment: The Notice of the Division's intent to issue a renewal groundwater discharge permit authorizing this facility to discharge to groundwaters of the State for a five-year period, subject to the conditions contained within the permit, is being sent to the **Las Vegas Review Journal** for publication. The Notice is being mailed to interested persons on our mailing list. Anyone wishing to comment on the proposed permit can do so in writing for a period of thirty (30) days following the date of publication of the public notice in the newspaper. The comment period can be extended at the discretion of the Administrator. The deadline date and time by which all comments are to be submitted (via postmarked mail or time-stamped faxes, e-mails, or hand-delivered items) to the Division is **September 6, 2011 by 5:00 P.M.**

A public hearing on the proposed determination can be requested by the applicant, any affected State, any affected interstate agency, the Regional Administrator or any interested agency, person or group of persons. The request must be filed within the comment period and must indicate the interest of the person filing the request and the reasons why a hearing is warranted.

Any public hearing determined by the Administrator to be held must be conducted in the geographical area of the proposed discharge or any other area the Administrator determines to be appropriate. All public hearings must be conducted in accordance with NAC 445A.238.

The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445A.605.

Prepared by: Jeryl R. Gardner, P.E.
Date: August, 2011